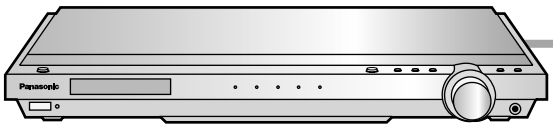
Panasonic®



AV Control Receiver

Operating Instructions

Model No. **SA-XR10**

Dear customer

Thank you for purchasing this product.
Before connecting, operating or adjusting this product, please read these instructions completely.
Please keep this manual for future reference.

As an ENERGY STAR® Partner, Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

PRINTED WITH SOY INK™
This manual was printed with soy based ink.

Table of contents

Before use

IMPORTANT SAFETY INSTRUCTIONS 2
Listening caution.....3
Supplied accessories 4
The remote control 4

Step 1 — Speaker connections 5
Step 2 — Equipment connections 6
Step 3 — Settings 8
Step 4 — Basic operations 10

Operations

Control guide 12
The radio 18

Others

Making a recording 20
Timer function 20
Other settings 21

Reference

Troubleshooting guide 22
The RESET function 22
Maintenance 22
Specifications.....23
Product Service 23
Warranty (U.S.A.) 24
Customer Services Directory (U.S.A.) 24

RQT6501-Y
H0602RF0

PP En Cf

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, use only the provided power supply cord with external mounted ferrite core.

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Listening caution

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion–and, most importantly, without affecting your sensitive hearing.

We recommend you to avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

User memo:

DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
_____
TELEPHONE NUMBER _____

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

MODEL NUMBER SA-XR10

SERIAL NUMBER _____

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

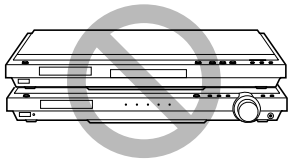
Marking sign is located on bottom of the unit.

CAUTION!

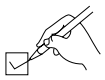
DO NOT INSTALL, OR PLACE THIS UNIT, IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

CAUTION

Do not place anything on top of this unit or block the heat radiation vents in any way. In particular, do not place tape decks or CD/DVD players on this unit as heat radiated from it can damage your software.

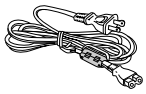


Supplied accessories

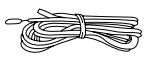


Please check and identify the supplied accessories.

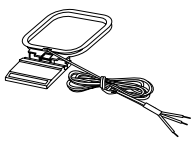
☐ **1 AC power supply cord (REZ1499)**



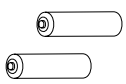
☐ **1 FM indoor antenna (RSA0006-J)**



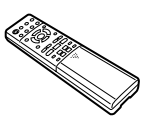
☐ **1 AM loop antenna (RSA0033C)**



☐ **2 Batteries**



☐ **1 Remote control (EUR7502XJ0)**

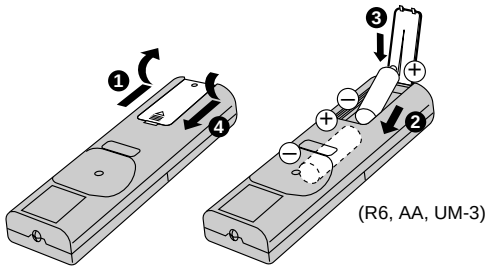


☐ **1 Cleaning cloth (RFE0088-1)**

Use the numbers indicated in parentheses when asking for replacement parts.
(Only for U.S.A.)
To order accessories contact 1-800-332-5368 or web site (http://www.panasonic.com).

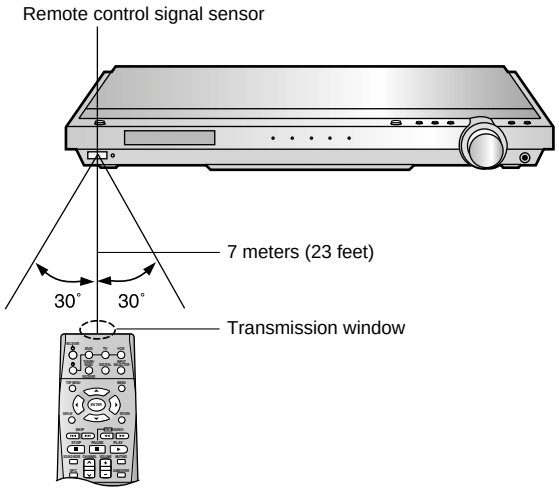
The remote control

Batteries



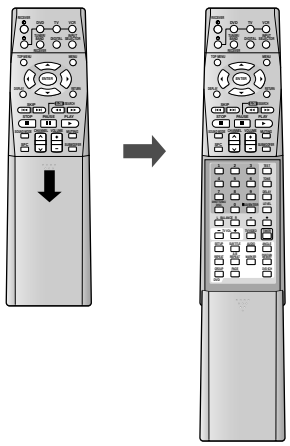
- Insert so the poles (+ and –) match those in the remote control.
- Do not use rechargeable type batteries.

Use



- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, and the glass doors on cabinets.

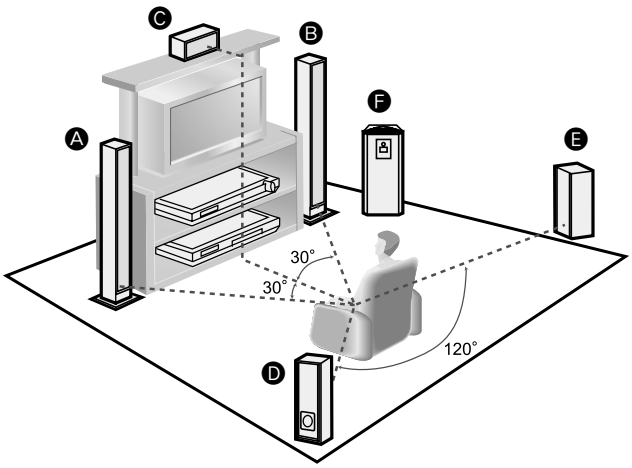
How to open the remote control



Speaker connections

Peripheral equipment and cables sold separately unless otherwise indicated.

Placement of speakers



Front speakers (Ⓐ left Ⓑ right)

Place on the left and right of the TV at seated ear height so that there is good coherency between the picture and sound.

Center speaker (Ⓒ)

Place underneath or above the center of the TV. Aim the speaker at the seating area.

Surround speakers (Ⓓ left Ⓔ right)

Place slightly behind the seating area, about one meter (3 feet) higher than ear level.

Subwoofer (Ⓕ)

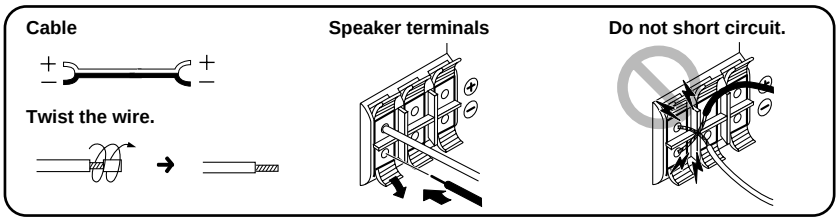
The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.
Note that some experimentation can yield the smoothest low frequency performance. Placement near a corner can increase the apparent output level, but can result in unnatural bass.

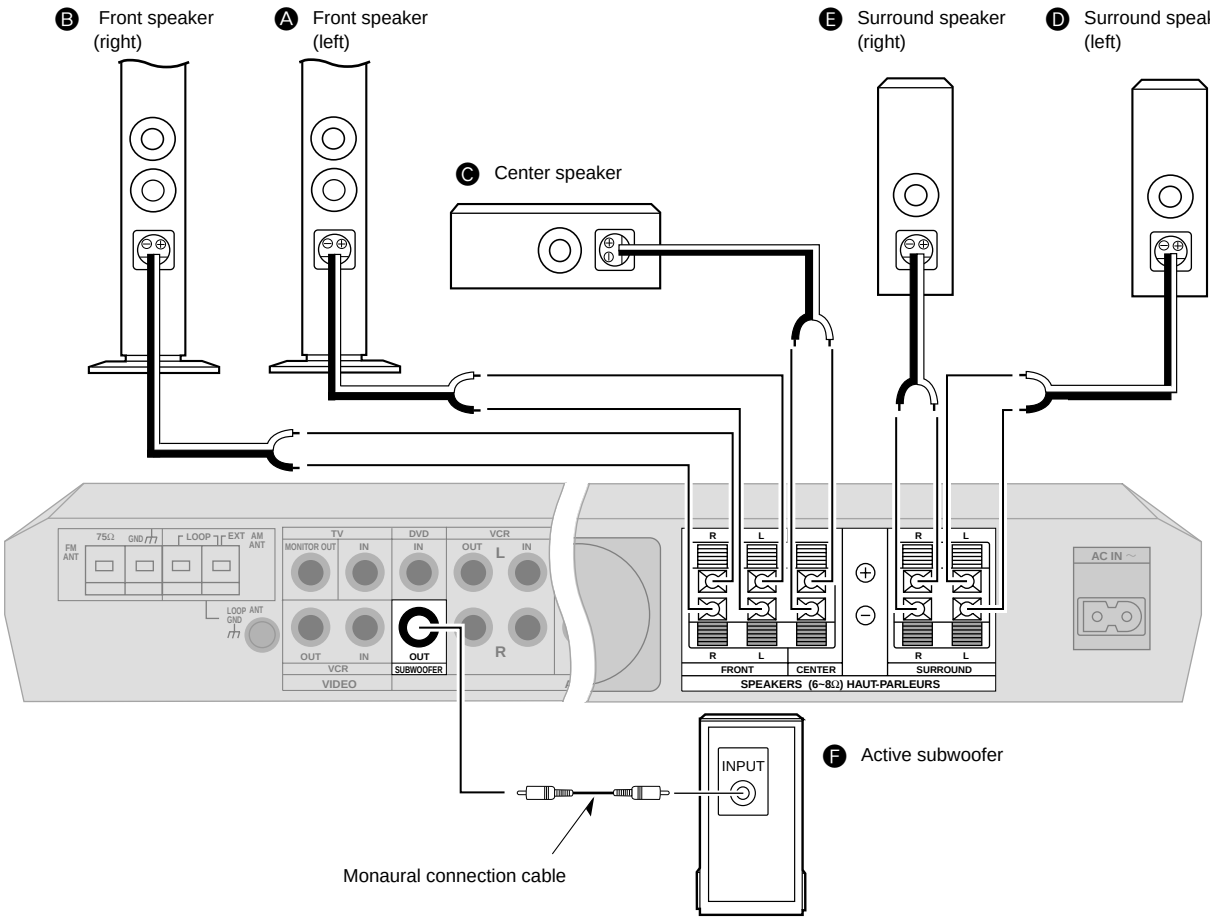
The front, center, and surround speakers should be placed at approximately the same distance from the seating area. The angles in the diagram are approximate.

Connecting speakers

Other connections are possible depending on your speaker system.
See your speaker system's operating instructions for details.
Turn off the receiver before connecting the speakers.

Speaker Impedance: 6–8 Ω





Equipment connections

Stereo connection cable
White (L)
Red (R)

Video connection cable

Optical fiber cable

Coaxial cable

To connect equipment, refer to the appropriate operating instructions.

Note

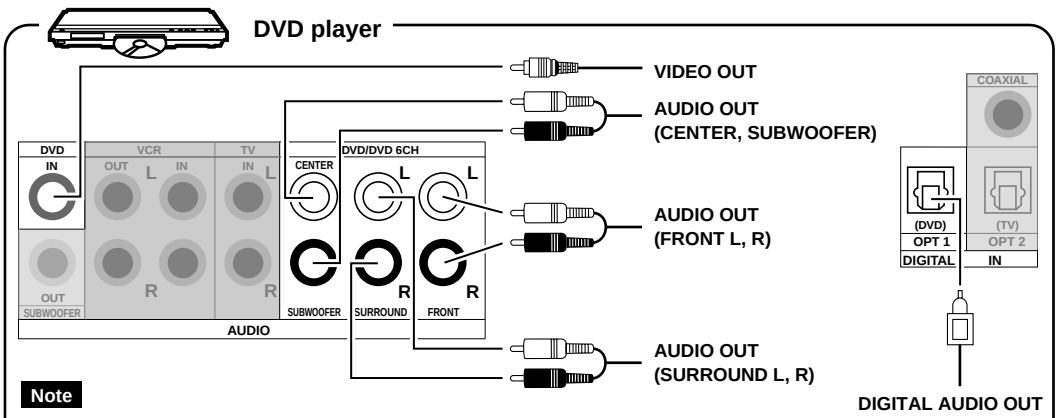
- Do not bend the optical fiber cable.
- Turn off all components before making any connections.
- Use digital connection to enjoy Dolby Digital or DTS (➡ page 11).
- Use analog connection to enjoy sources that cannot be decoded on this unit and to record a source (➡ pages 11 and 20).

Changing the digital input settings

You can change the input settings for the digital terminals if necessary. Note the equipment you have connected to the terminals, then change the settings (➡ page 21).

TV, VCR, and DVD player

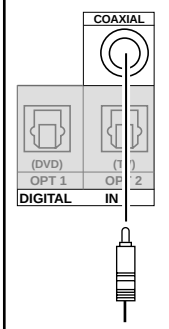
DVD player



Note

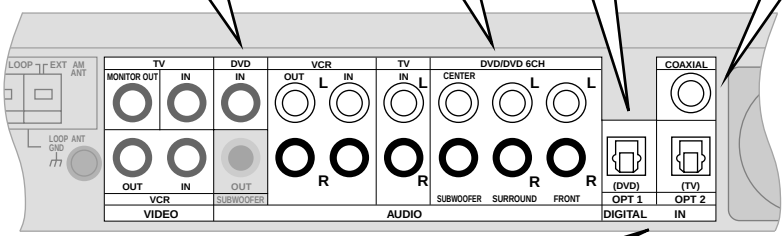
Connect to FRONT L, R if your DVD player does not have 6 channel output.

Coaxial

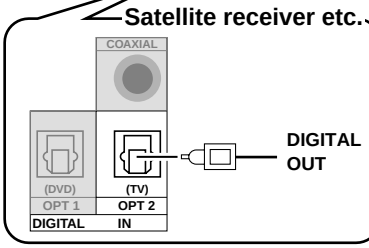


Using DVD analog connections

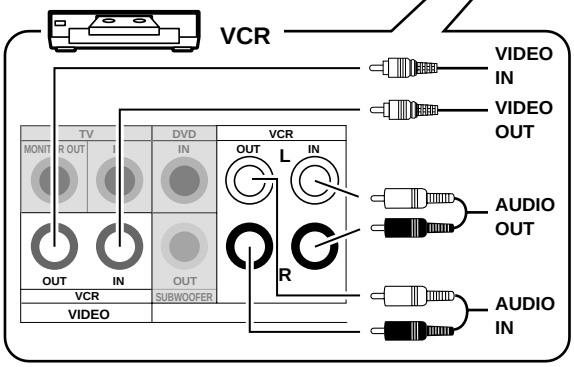
To enjoy multichannel linear PCM when using DVD-AUDIO you need to make connections via the analog 6CH terminals.



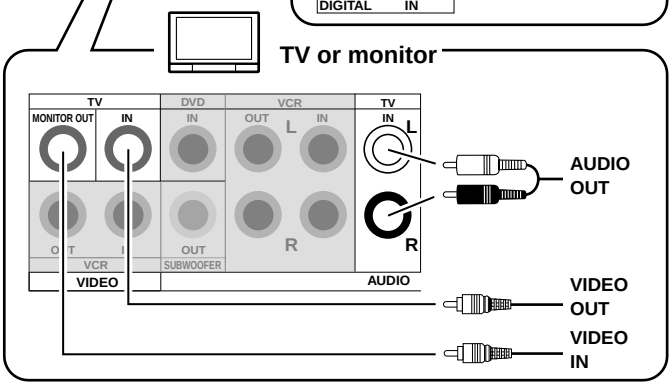
Satellite receiver etc.



VCR



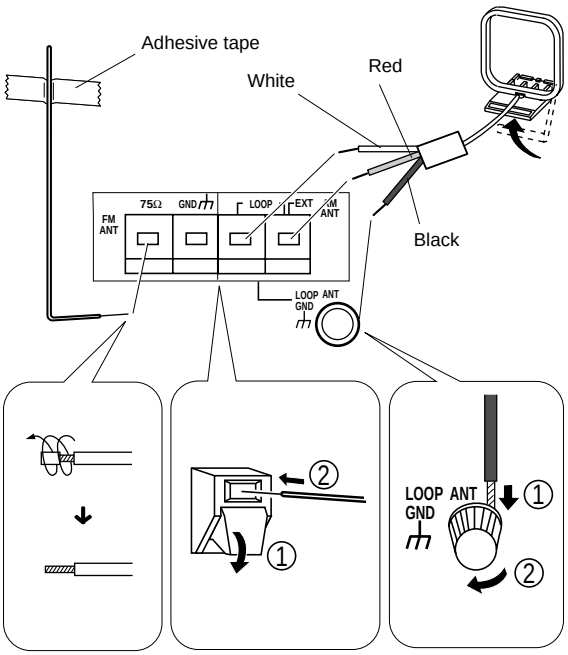
TV or monitor



Antennas

FM indoor antenna (included)
Fix the other end of the antenna where reception is best.

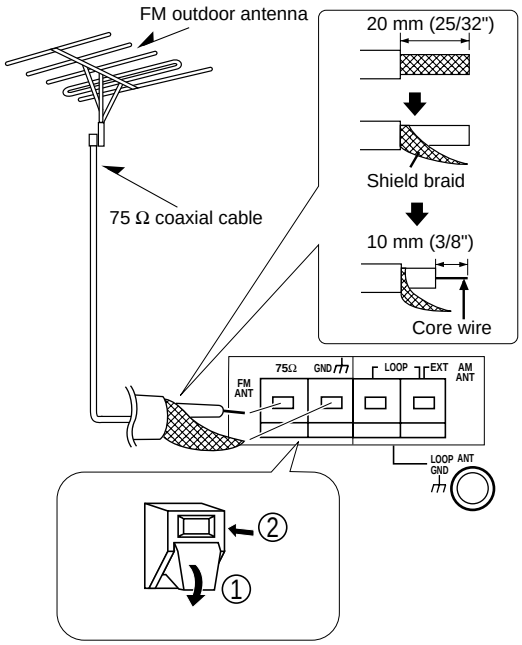
AM loop antenna (included)

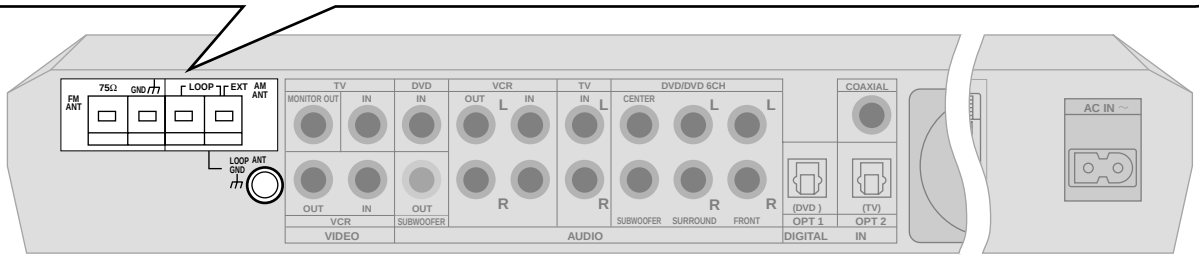


Keep the antenna cord away from DVD players and other cords.

FM outdoor antenna

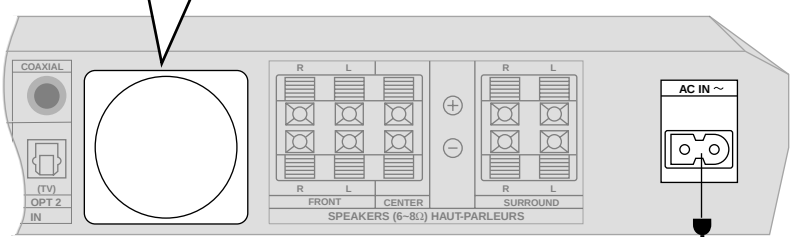
- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.
- Twist the coaxial cable's shield braid firmly and connect it to the GND terminal.





Connecting the AC power supply cord and other information

The cooling fan operates at high power output levels only.



CAUTION:
TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

Household AC outlet
(AC 120 V/60 Hz)

Noise Filter
- Do not remove the noise filter from the AC power supply cord.

AC power supply cord (included)

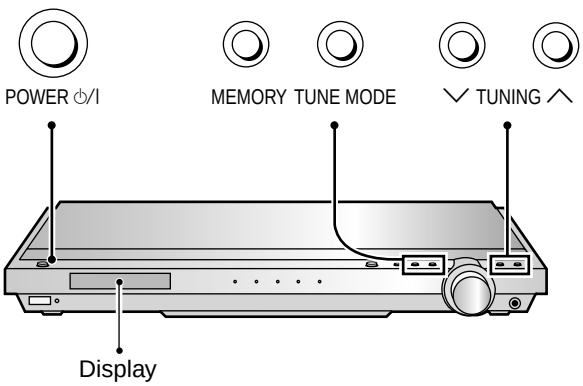
Note

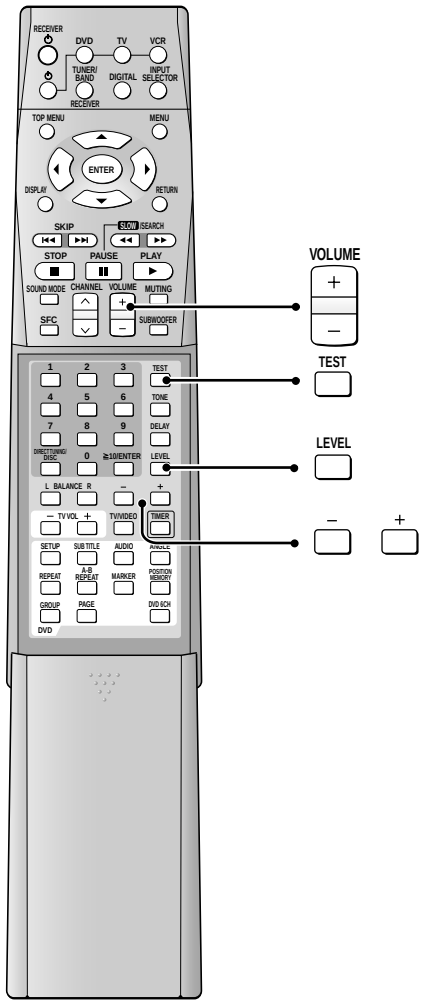
The included AC power supply cord is for use with this unit only. Do not use it with other equipment.

Connect this cord after all other cables and cords are connected.

Step 1 2 3 4 Settings

Change the settings to suit your speakers and units to the environment in which you are using them. Before making any changes, read the descriptions of the settings, note the factory settings and ranges, and refer to the equipment's instructions.





1 SIZE

Set the size to suit your speakers

POWER ⏻/I

LARGE: For speakers that can reproduce a full sound range, particularly the bass range below 100 Hz.
SMALL: For speakers that cannot adequately reproduce the bass range. This setting is sufficient for most speakers if you are using a subwoofer.
NONE: For speakers you haven't connected (center or surround).
The factory settings are:
FRONT: LARGE
CENTER and SURROUND: SMALL
For the subwoofer (SUB-WFR), select YES if you have connected one (factory setting), or NO if you have not.

Press at the same time.

MEMORY TUNE MODE

Enter the setting mode.

SETTING

MEMORY

Select "SIZE".

SIZE

TUNE MODE

Select the speaker.

FRONT

Repeat

TUNING

Change the setting.

LARGE

Repeat these steps for each speaker channel.

Press at the same time.

MEMORY TUNE MODE

Exit the setting mode.

COMPLETE

2 DISTANCE

Enter the distance of the front, center and surround speakers from the seating position

Change the distance so that the sound from all the speakers (except for the subwoofer) reaches you at the same time. You can select distances between 3 and 30 feet at one-foot intervals.
The factory settings are:
FRONT and CENTER: 10 FEET
SURROUND: 5 FEET

Enter the setting mode.

SETTING

Select "DISTANCE".

DISTANCE

Select the speaker.

FRONT

Repeat

Change the setting.

10 FEET

Repeat these steps for each speaker channel.

Exit the setting mode.

COMPLETE

3 FILTER

Change the cut-off for bass output from the front speakers

If you set the front speakers to "SMALL", the filter is set to 100 Hz. Raise the cut-off if the bass from the front speakers is unsatisfactory so that this bass is output through the subwoofer.
You can raise the cut-off from 100 Hz to either 150 Hz or 200 Hz.

Enter the setting mode.

SETTING

Select "FILTER".

FILTER

Change the setting.

100

Exit the setting mode.

COMPLETE

4 Adjusting speaker output level

Adjust the level of the other speakers based on the output of the front speakers. (Adjust the volume of the front speakers with [VOLUME].)

C (center), RS (surround right), and LS (surround left) can be adjusted between –10 dB and +10 dB, with 0 being the level of the front speakers.
Adjust center and surround output to the same apparent level of the front speakers.

For SW (subwoofer), you can select "– – –" so there is no output, "MIN" for minimum output, a level between 1 and 19, or "MAX" for maximum output.
Adjust subwoofer output so it is balanced with the front speakers. Subwoofer output is easily influenced by the source. You can also change its level while playing something for better effect (➡ page 12).

TEST

Output the signal.

The speakers output a signal in order for about two seconds each.

TEST L

L → C → R → RS → LS → SW

Speakers set as "NONE" or "NO" are skipped.

VOLUME + –

Adjust the main volume.

LEVEL

– +

Adjust the level.

Press [LEVEL] to select the speaker channel, then press [–] or [+].

C 0dB

Repeat

C +4dB

Repeat these steps for each speaker channel.

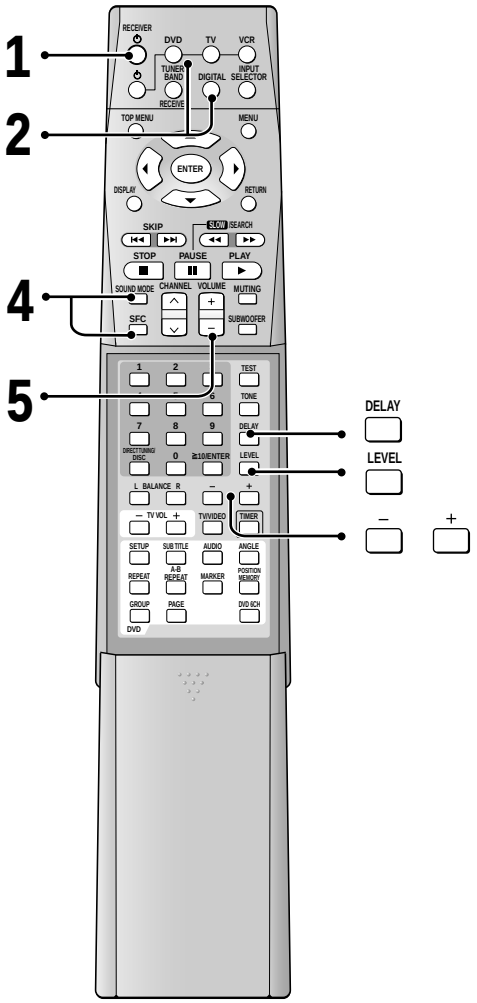
TEST

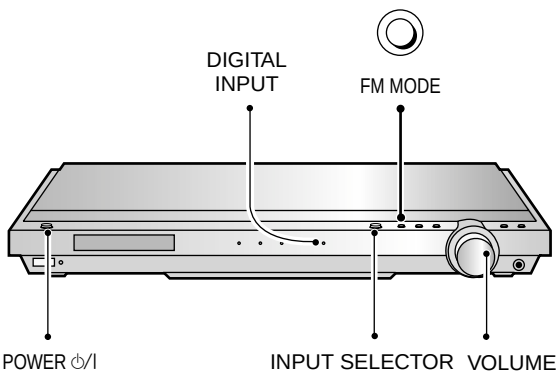
Stop the test signal.

Step 3

RQT6501

Basic operations





1 Switch on.

RECEIVER

Or press [POWER ⏻/I] on the main unit.

2 Select input.

DVD TV VCR TUNER/ BAND INPUT SELECTOR RECEIVER

Each time you press [INPUT SELECTOR]:

TUNER (FM) → AM → DVD → VCR → TV →

Or press [INPUT SELECTOR] on the main unit.

DIGITAL

For DVD, TV

Select digital or analog input.

"DIGITAL INPUT" lights when you select digital input.

3 Start play of the source.

4 Select the sound mode.

SOUND MODE

5 Adjust the volume.

VOLUME + –

Or turn [VOLUME] on the main unit.

When you finish listening

Be sure to reduce the volume and press [RECEIVER ⏻] to switch the unit to standby.

For your reference

In rare cases, the unit may have trouble recognizing the digital signals on discs.

- With the PCM signals on CDs, this may cause the beginning of a track to be cut off. Engage the PCM FIX mode if this occurs.
- With DTS, the signals may not be recognized at all. Engage the DTS FIX mode if this occurs.

While the input source is selected and digital input is engaged:

Press and hold [FM MODE].

The current mode is displayed. Press again to change the mode.

Each time you press the button:

AUTO → PCM FIX → DTS FIX

When a FIX mode is on, the unit cannot process other signals. This may cause noise to be output. Select "AUTO" if this occurs.

The mode returns to AUTO when you switch the unit to standby.

STEREO mode

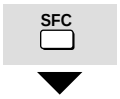
Use this mode to play digital or analog stereo sources or to play surround sources through two speakers. When surround sources are played in this mode, the sounds intended for the other speaker channels are played through the front speakers.

SURROUND mode

Select this mode when you are playing a digital surround source (Dolby Digital or DTS).
Also select this mode when playing analog or digital stereo sources. The Dolby Pro Logic Ⅱ processor works not only on sources recorded with Dolby Surround, but also on any stereo source. See page 21 if you want to have similar effects to Dolby Pro Logic.

SFC modes

Enjoy an enhanced sound experience with greater presence and spread by using these SFC (sound field control) modes with PCM or analog stereo sources.
The SFC modes cannot be used if the input signal is Dolby Digital or DTS.
Choose from the following modes.



HALL
Imparts the reflection and spread of a large concert hall.

CLUB
Conveys the exciting and intimate atmosphere of a jazz club.

LIVE
Brings you up close for “live” stage performance and smoother vocals.

THEATER
Recreates natural sound ambience and direction.

SIM SURR (Simulated Surround)
Heightens the sensation of expanded space with stereo sources, and augments monaural sources.

PARTY
This mode uses the front and surround speakers so that sound is in stereo regardless of the direction you are facing.

You can adjust the sound field by adjusting the level of the speakers and the delay time of the surround speakers. These adjustments can be made for each SFC mode.

To adjust the speaker level

1. Press [LEVEL] to select the speaker channel.

Each time you press the button:
C → RS → LS → SW
Speakers set as “NONE” or “NO” are skipped.

2. Press [–] or [+] to adjust the level.

C, RS, and LS: –10 dB to +10 dB
SW: – – – (off) ↔ MIN ↔ 1 – 19 ↔ MAX

To adjust the delay time

1. Press [DELAY].
2. Press [–] or [+] to change the delay time.

Delay time can be set at 10-millisecond (ms) intervals between 10 and 100 ms.
The factory setting is 50 ms for each mode.

Notes on digital input

This unit can decode the following signals:

- **Dolby Digital**
- **DTS**
- **PCM, including PCM with sampling frequencies of 96 or 88.2 kHz**

It cannot decode:

- Other digital signals, such as MPEG
- Dolby Digital RF signals from a laser disc player

When playing PCM with sampling frequencies of 96 or 88.2 kHz, the STEREO mode is engaged automatically.

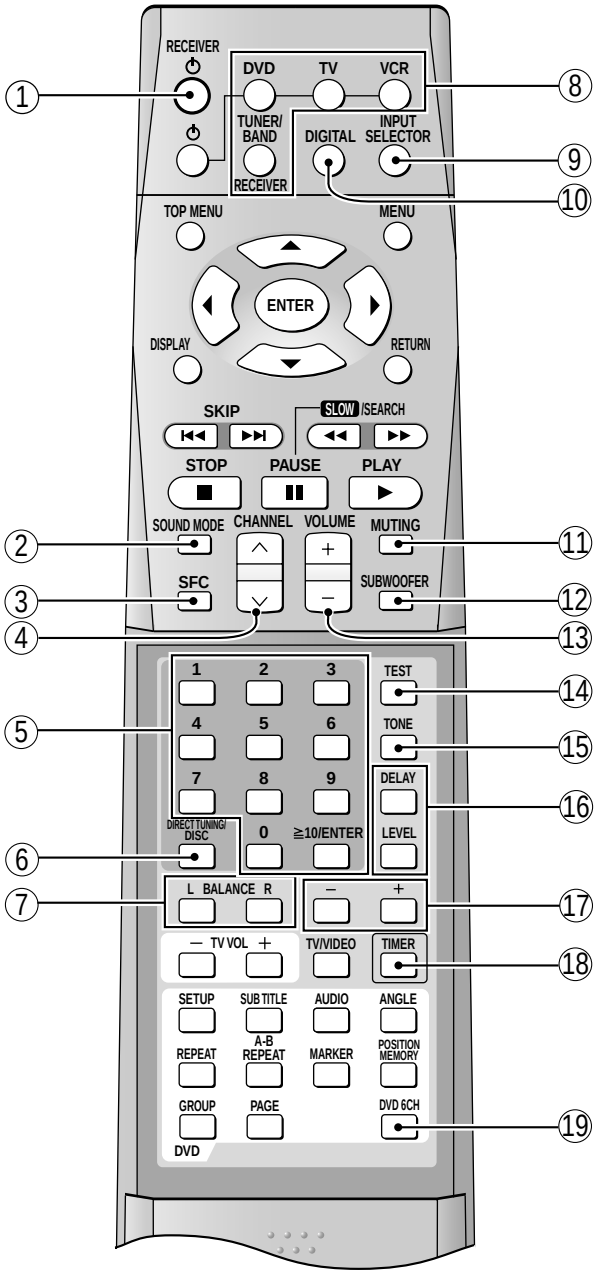
Manufactured under license from Dolby Laboratories.
“Dolby”, “Pro Logic” and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license from Digital Theater Systems, Inc.
US Pat. No. 5,451,942, 5,956,674, 5,974,380, 5,978,762 and other world-wide patents issued and pending. “DTS” and “DTS Digital Surround” are registered trademarks of Digital Theater Systems, Inc.
© 1996, 2000 Digital Theater Systems, Inc. All rights reserved.

Control guide

Operating the receiver

Reference pages are shown as black circled numbers ⑩.



For your reference

- **Once you have set a mode (Sound mode, digital/analog input, or 2-channel/6-channel input for DVD) for an input source**
  That mode is engaged whenever you reselect the input source.
- **When DVD 6CH input is on**
  Speaker settings are ineffective. Change the settings on the DVD player if necessary.
- **To adjust the tone**
  The STEREO mode must be on and input must be either analog or PCM signals. You cannot adjust the tone if DVD 6CH is selected.
- **When using the subwoofer**
  Sound can be distorted if you raise the volume while subwoofer level is high. Reduce subwoofer level if this occurs.
- **Muting**
  Muting is also canceled when the unit is turned off.

Remote control

① **[RECEIVER ⏻]:**
Standby/on button ⑩

② **[SOUND MODE]:**
To select the sound modes ⑩

③ **[SFC]:**
To select SFC modes ⑪

④ **[CHANNEL, ∧, ∨]:**
To select preset radio channels ⑲

⑤ **[1-0, ≧10/ENTER]:**
To enter radio frequencies ⑱ and channels ⑲

⑥ **[DIRECT TUNING/DISC]:**
To enable selection of radio stations by frequency ⑱

⑦ **[L BALANCE R]:**
To adjust front speaker balance

⑧ **[DVD, TV, VCR, TUNER/BAND RECEIVER]:**
Input and remote control mode buttons ⑩.
DVD: to switch input and remote control mode to DVD
TV: to switch input and remote control mode to TV
VCR: to switch input and remote control mode to VCR
TUNER/BAND RECEIVER: to switch input and remote control mode to RECEIVER and to change the radio band
- These buttons light when you press other buttons to indicate the current remote control mode.

⑨ **[INPUT SELECTOR]:**
To select the input source ⑩

⑩ **[DIGITAL]:**
To switch between analog and digital TV/DVD input ⑩

⑪ **[MUTING]:**
To mute the volume

⑫ **[SUBWOOFER]:**
To adjust subwoofer level
- Adjust the level in 5 steps
  SW MIN, SW 5, SW 10, SW 15, and SW MAX.
  Select SW – – – to stop output.

⑬ **[VOLUME, +, –]:**
To adjust the volume ⑩

⑭ **[TEST]:**
To start the speaker signal ❾

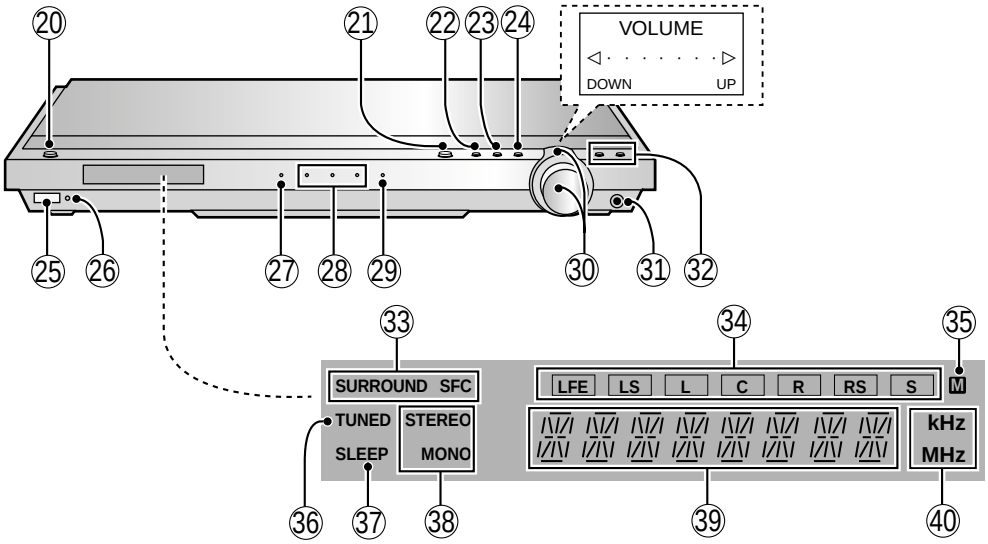
⑮ **[TONE]:**
To select bass and treble to allow adjustment with [–, +]

⑯ **[DELAY, LEVEL]:**
To select speaker delay time ⑪ and output level ❾ to allow adjustment with [–, +]

⑰ **[–, +]:**
To change settings

⑱ **[TIMER]:**
To select and set the sleep or wake timer to allow setting with [–, +] ⑳

⑲ **[DVD 6CH]:**
To switch DVD 6-channel input mode on or off.
You need to use DVD 6-channel input to enjoy multichannel linear PCM in DVD-AUDIO.



Main unit

⑳ Standby/on button [POWER ⏻/I]
Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.

㉑ [INPUT SELECTOR]:
To select the input source ⑩

㉒ [FM MODE]:
Press to switch to monaural mode if FM reception is poor ⑱.

㉓ [MEMORY]:
To preset radio stations ⑱

㉔ [TUNE MODE]:
To allow preset channel selection with [∨ TUNING ∧] ⑲

㉕ Remote control signal sensor

㉖ Standby indicator [⏻]
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

㉗ [WAKE]:
Lights when the unit is in standby mode and the wake timer is set ⑳.

㉘ [–MULTI DECODER–, DOLBY DIGITAL, DOLBY PRO LOGIC Ⅱ, DTS]:
Light to indicate the source's input signal and decoding format used.
DOLBY DIGITAL: Dolby Digital sources
DOLBY PRO LOGIC Ⅱ: Dolby Pro Logic Ⅱ decoder is being used
DTS: DTS sources

㉙ [DIGITAL INPUT]:
Lights when digital input is selected ⑩.

㉚ [VOLUME, ◁, ▷]:
Volume control and display. ◁ DOWN and ▷ UP light while adjusting the volume ⑩.

㉛ [PHONES]:
Headphone jack
Plug type: 6.3 mm (1/4") stereo
- Avoid listening for prolonged periods of time to prevent hearing damage.
- The STEREO mode is engaged when you connect headphones and you cannot select any of the other sound modes.

㉜ [∨ TUNING ∧]:
For tuning the radio and selecting preset stations ⑱

Display section

㉝ [SURROUND, SFC]:
Show the current sound mode ⑪.

㉞ [LFE, LS, L, C, R, RS, S]:
Show the channels contained in the digital input signal. They do not light when input is analog.
LFE (Low Frequency Effect)**:** Deep-bass effect.
LS: Surround channel (left)
L: Front channel (left)
C: Center channel
R: Front channel (right)
RS: Surround channel (right)
S: If the surround channel is monaural.

㉟ [M]:
Memory indicator, flashes during presetting ⑱.

㊱ [TUNED]:
A station is tuned ⑱.

㊲ [SLEEP]:
The sleep timer is on ⑳.

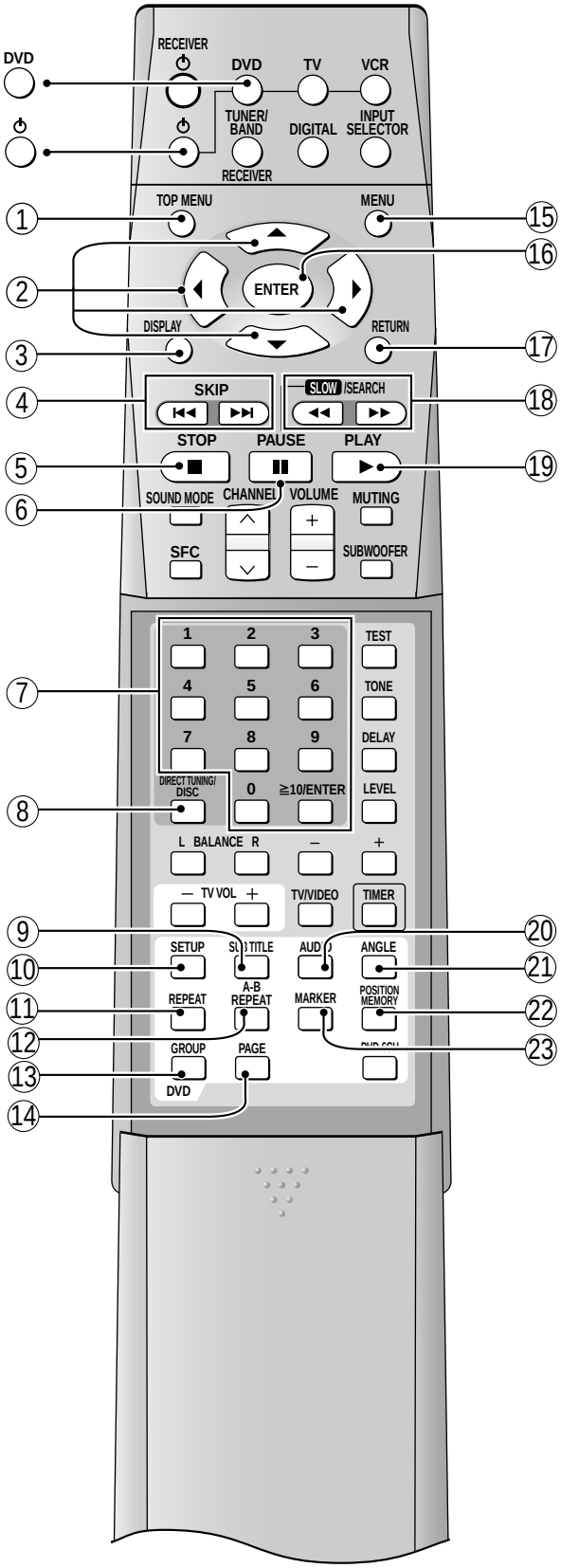
㊳ [STEREO, MONO]:
STEREO: a stereo FM broadcast is tuned ⑱.
MONO: you have switched to monaural mode ⑱.

㊴ General display
Shows the input mode, radio frequency, and other general information.

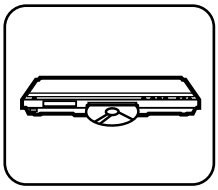
㊵ [kHz, MHz]:
kHz: AM, or PCM sampling frequency
MHz: FM

Control guide

This remote control is the key to your home theater experience.
Actual operations depend on your equipment and software.
Be sure to read the instructions for your other components.
You may need to enter a code to operate some equipment (➡ page 17).



Operating a DVD player



To turn the DVD player on/off

DVD ➡

① **[TOP MENU]:**
To show the first disc menu

② **[▲, ▼, ◀, ▶]:**
To select menu items in disc and player menus

③ **[DISPLAY]:**
To show player menus

④ **[SKIP |◀◀, ▶▶|]:**
To skip to the beginning of a track or chapter

⑤ **[STOP ■]:**
To stop play

⑥ **[PAUSE ❚❚]:**
To pause play
- Slow-motion: [PAUSE ❚❚] → press [SLOW/SEARCH ◀◀ or ▶▶]
- Frame-by-frame: [PAUSE ❚❚] → press [◀] or [▶]

⑦ **[1-0, ≧10/ENTER]:**
To enter numbered items and start play from a selected track or chapter

⑧ **[DIRECT TUNING/DISC]:**
To enable entry of disc numbers
- Press a numbered button ([1]-[5]) (5-disc changers only).

⑨ **[SUB TITLE]:**
To change subtitles

⑩ **[SETUP]:**
To show set up menus

⑪ **[REPEAT]:**
To select a repeat play mode

⑫ **[A-B REPEAT]:**
To specify start and finish points for A-B repeat

⑬ **[GROUP]: (DVD Audio only)**
To select a group

⑭ **[PAGE]: (DVD Audio only)**
To select still pictures

⑮ **[MENU]:**
To show disc menus

⑯ **[ENTER]:**
To confirm item selection in menus

⑰ **[RETURN]:**
To return through menus and clear them

⑱ **[SLOW/SEARCH ◀◀, ▶▶]:**
To search through the disc

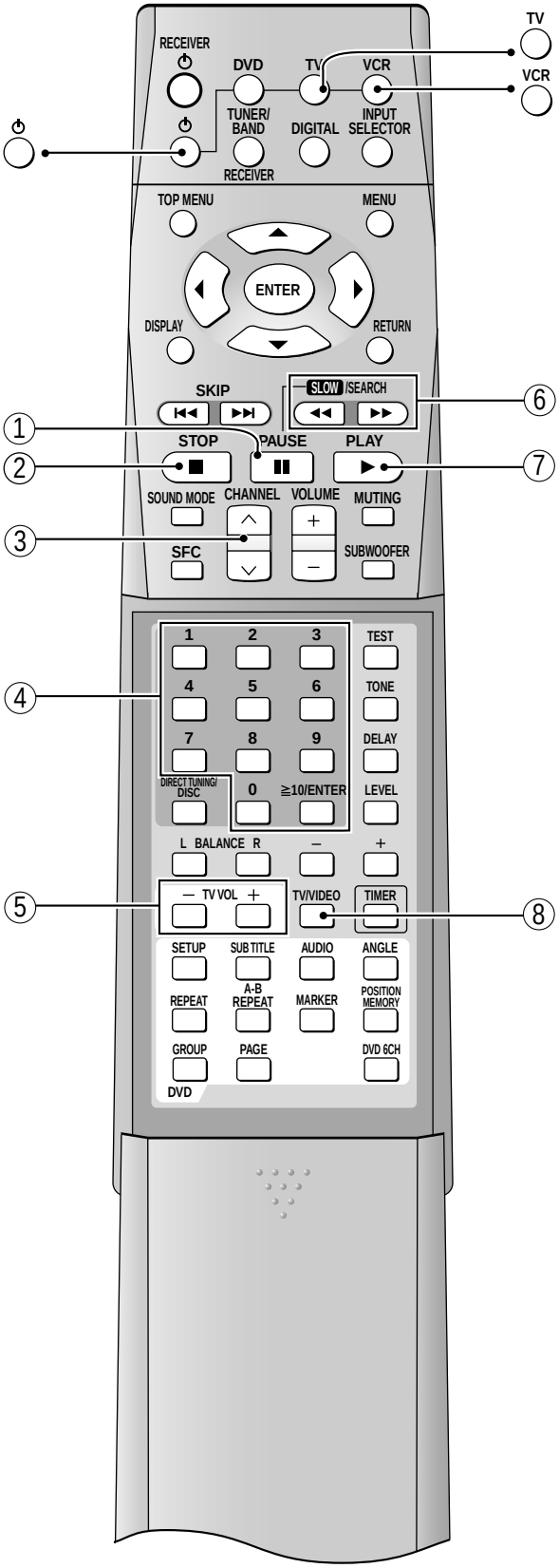
⑲ **[PLAY ▶]:**
To start play

⑳ **[AUDIO]:**
To change soundtracks

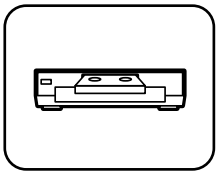
㉑ **[ANGLE]:**
To change angles

㉒ **[POSITION MEMORY]:**
To memorize a position to restart play after turning player back on or reinserting a disc

㉓ **[MARKER]:**
To mark specific points on a disc to return to later
- To mark a position: [ENTER] (at the desired point)
- To mark another position: [◀] or [▶] → press [ENTER]
- To recall a marker: [◀] or [▶] → press [ENTER]



Operating a VCR



To turn the VCR on/off

VCR ⏻ ➡ ⏻

① **[PAUSE ❚❚]:**
To pause play

② **[STOP ■]:**
To stop play

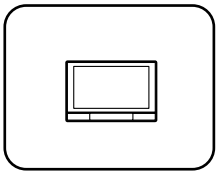
③ **[CHANNEL ∧, ∨]:**
To select channels sequentially

④ **[1-0, ≧10/ENTER]:**
To select channels directly

⑥ **[SLOW/SEARCH ◀◀, ▶▶]:**
To fast-forward and rewind

⑦ **[PLAY ▶]:**
To start play

Operating a TV



To turn the TV on/off

TV ⏻ ➡ ⏻

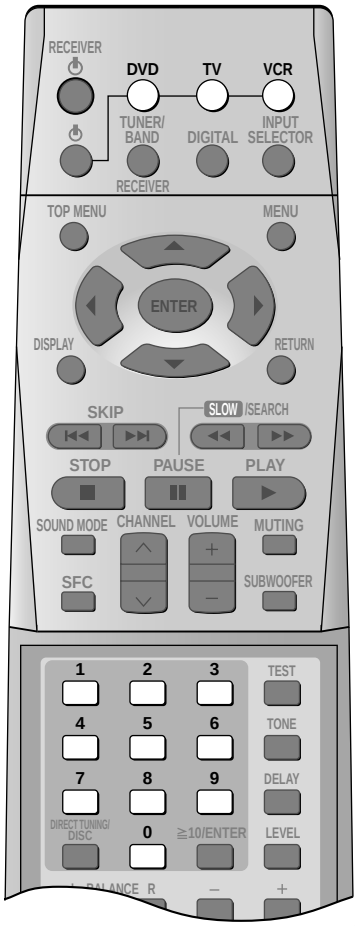
③ **[CHANNEL ∧, ∨]:**
To select channels sequentially

④ **[1-0, ≧10/ENTER]:**
To select channels directly

⑤ **[– TV VOL +]:**
To adjust the television's volume

⑧ **[TV/VIDEO]:**
To select the television's input mode

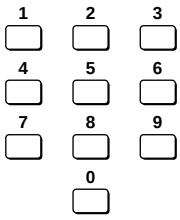
This remote control can operate Panasonic and Technics audiovisual equipment that have remote control sensors. You may need to change the remote control code.
It can also operate some other brands of televisions, video cassette players, and DVD players. Check the table for the brand and enter the code as follows.



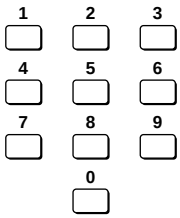
Changing the codes

Press and hold the button corresponding to the equipment.

Enter the first digit.



Enter the second digit.



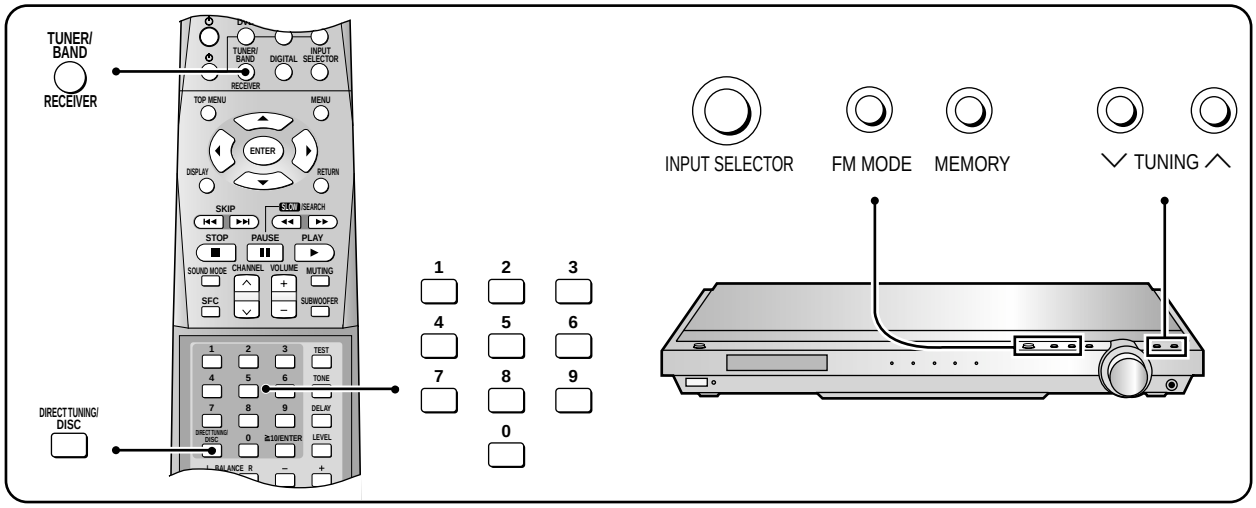
The remote control outputs the on/off signal.
If the code is correct, the equipment turns on or off.
If it doesn't, try entering another code.

- Note that this remote control cannot operate some equipment and that it may not be perform some operations.
- Reenter the codes after you change the batteries.

Code table

TV		VCR		DVD	
Manufacturer	Code No.	Manufacturer	Code No.	Manufacturer	Code No.
Panasonic	01, 02, 26	Panasonic	01, 02, 09, 33	Panasonic	01, 18
Fisher	14	Fisher	13, 14, 15, 18, 34	Denon	01, 17, 18
G.E.	02, 03, 07, 09	Funai	08, 30	Ferguson	02
GoldStar	07, 15	G.E.	02, 03, 11	Hitachi	11
Hitachi	05, 07	GoldStar	27	JVC	09
JVC	12	Hitachi	09, 10, 11	Kenwood	15
LXI	03, 06, 07, 10, 14, 15	JVC	19, 25, 31, 38, 39, 40	Mitsubishi	06
Magnavox	06, 07, 11, 15, 22	LXI	10, 13, 14, 15, 18, 27,	Nordmende	02
Mitsubishi	07, 15, 16, 21		30	Philips	04, 16
NEC	07, 15	Magnavox	02, 09, 12	Pioneer	03
Philco	06, 07	Mitsubishi	21, 22, 28, 29	Raite	13
Philips	06	NEC	19, 25, 31, 38	RCA	02
Pioneer	02, 10, 19	Philco	02, 09, 12, 30	Saba	02
Quasar	02	Philips	02, 09, 12	Sampo	14
RCA	03, 07, 09, 13, 23, 24,	Pioneer	09	Samsung	10
	25	Quasar	01, 02, 09, 33	Sharp	08
Sanyo	14	RCA	02, 03, 04, 09, 10, 11,	Sony	05
Sharp	08, 21		12, 23, 24, 26	Technics	01, 18
Sony	04	Sanyo	14, 18, 34	Thomson	02
Sylvania	06, 07, 15	Sharp	16, 17	Toshiba	04
Symphonic	17	Shintom	32	Yamaha	01, 18
Toshiba	10, 21	Sony	05, 06, 07, 35, 36, 37	Zenith	07, 12
Zenith	18, 20	Sylvania	02, 09, 12, 30		
		Symphonic	30		
		Toshiba	23, 24		
		Zenith	20		

The radio



Manual tuning

On the remote control

1. **Press [TUNER/BAND RECEIVER].**
   The band changes each time you press the button.
2. **Press [DIRECT TUNING/DISC].**
3. **Press the numbered buttons to enter the frequency.**
   Tuning intervals: FM–0.1 MHz, AM–10 kHz
   e.g. To select 107.9 MHz, press [1] → [0] → [7] → [9]
   "TUNED" lights when tuned.
   "STEREO" lights during FM stereo broadcasts.

Note

1. If you do not press a button while the cursor is flashing, the display returns to the frequency being received.
2. If the frequency has not been input correctly, "ERROR" will be displayed.

On the main unit

1. **Press [INPUT SELECTOR] to select "TUNER (FM)" or "AM".**
   "FM" appears 2 seconds after you select "TUNER".
2. **Press [TUNING ∨ or ∧] to select the frequency of the station.**
   Tuning intervals: FM–0.2 MHz, AM–10 kHz

Automatic tuning

Hold down [TUNING ∨ or ∧] until the frequency begins to scroll. Tuning stops when a station is found. (Tuning may stop if there is interference.)

Improving reception

- **FM mode**
  You can improve FM reception by switching reception to monaural.
  Press [FM MODE].
  "MONO" lights.
  Press [FM MODE] again to cancel.

- **For your reference**
  Some equipment can interfere with radio reception. Turn off nearby TV, VCR, DVD players, and satellite receivers or move them further away from the antennas if this occurs.

Preset tuning

Automatic presetting

1. **Press [INPUT SELECTOR] to select "TUNER (FM)".**
2. **Press [TUNING ∨ or ∧] to tune to "FM 87.9 MHz".**
3. **Press and hold [MEMORY].**
   The FM stations the unit can receive are preset in channels 1 to 30.
4. **Press [INPUT SELECTOR] to select "AM".**
5. **Press [TUNING ∨ or ∧] to tune to "AM 530 kHz" .**
6. **Press and hold [MEMORY].**
   The AM stations the unit can receive are preset in channels 21 to 30.
   (FM stations are replaced if any were preset in these channels.)

During automatic presetting, the memory indicator (M) flashes and the frequency scrolls. The memory indicator and channel numbers are displayed for a second when a station is preset.
The last station to be preset is displayed when presetting finishes.

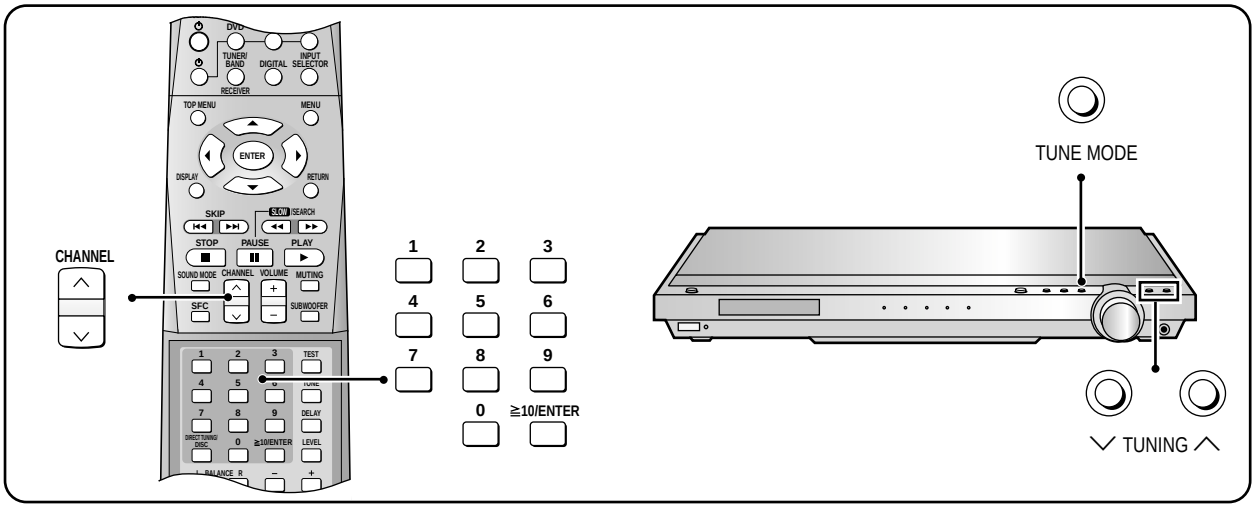
Manual presetting

Preset the stations one at a time.

1. **Tune to the station.**
2. **Press [MEMORY].**
3. **Press [TUNING ∨ or ∧] to select a channel.**
4. **Press [MEMORY].**

For your reference

FM stations can also be preset in the MONO mode.



Selecting channels

On the remote control

Press [CHANNEL ∧ or ∨].

or

Press the numbered buttons.

For channel 1 to 9, press the corresponding number.
For channels 10 or over, press [≧10/ENTER], then the two digits.
e.g. To select channel 21:
[≧10/ENTER] → [2] → [1]

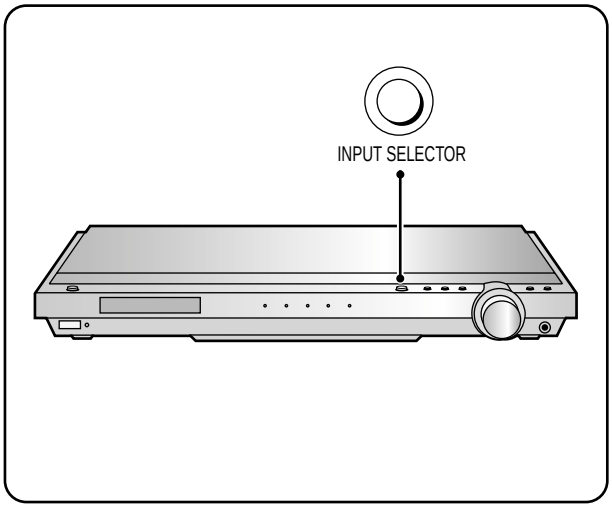
On the main unit

1. **Press [TUNE MODE].**
   The channel number flashes for about 5 seconds.
2. **Press [TUNING ∨ or ∧].**
   Hold down the buttons to change channels faster.

For your reference

Even if the power supply cord is disconnected from the household AC outlet, the stations remain in memory for approximately two weeks.

Making a recording



Recording on a VCR

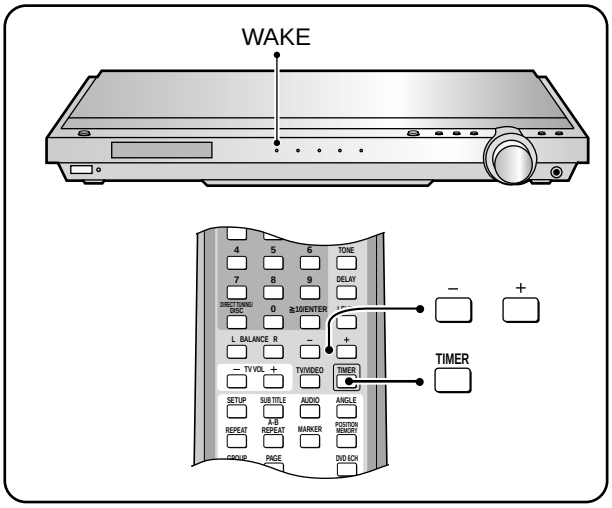
You can record to a VCR connected to VCR OUT.
See the recording unit's operating instructions for details on how to prepare it for recording.
When recording with a VCR, you can record any source except VCR.

1. **Press [INPUT SELECTOR] to select the source to be recorded.**
2. **Begin recording.**
   Follow your recording unit's operating instructions.
3. **Start the source to be recorded.**
   Follow your equipment's operating instructions.

Note

- You cannot record a source connected through a digital terminal. When recording DVD or TV, ensure the source is connected through the corresponding analog terminals and "ANALOG" input is selected.
- When you select DVD 6CH mode, only sound from the front left and right channels is recorded.

Timer function



The SLEEP timer can turn the unit off after a set time and the WAKE timer can turn it on. You can use only one timer at a time.
They do not control any other components.

1. **Press [TIMER] to select the timer.**
   SLEEP → WAKE → OFF

2. Within 5 seconds
   Press [–] or [+] to select the required time.
   The display changes as follows:
   SLEEP (in minutes)
   30 ↔ 60 ↔ 90 ↔ 120
   WAKE (in hours)
   5H ↔ 6H ↔ 7H ↔ 8H ↔ 9H ↔ 10H

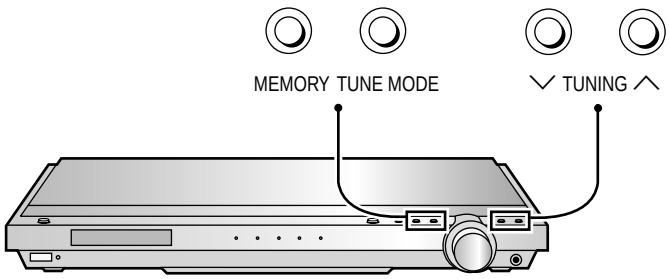
   - SLEEP starts working immediately.
   - WAKE starts working when you switch the unit to standby. (The "WAKE" indicator lights up.)

To check the setting
Press [TIMER] once.

- If you set SLEEP, the time remaining appears.
- If you set WAKE, the setting appears.

To change a setting
Repeat the procedure from the beginning.

Other settings



Setting descriptions

Ⓐ DR COMP - Dynamic range compression

Change this setting to listen to software recorded with Dolby Digital at low volume (such as late at night) and maintain audio clarity. It reduces the peak level in loud scenes without affecting the sound field.

OFF: The software is played with the original dynamic range (factory setting).

STANDARD: The level recommended by the producer of the software for household viewing.

MAX: The maximum allowable compression (recommended for night viewing).

Ⓑ D – INPUT - Digital input

You can change the digital input settings for DVD and TV, for example, if your equipment doesn't have an optical output terminal, to coaxial input if necessary. (Note that one of the terminals will remain unused, whatever the setting.)

The factory settings are: DVD: OPT 1
TV: OPT 2

Ⓒ LIGHT

If the room is darkened and the display is too bright, turn off the display light.

The factory setting is ON.

Ⓓ A/D ATT - A/D attenuator

Turn the A/D attenuator on if "OVERFLOW" lights frequently when using 2-channel analog input or DVD 6CH input.

The factory setting is OFF.

Ⓔ PLⅡ MODE - Dolby Pro Logic Ⅱ mode

There is a difference in sound quality between Dolby Pro Logic and Dolby Pro Logic Ⅱ. If you want to have similar effects to Dolby Pro Logic, change the setting to "PL".

The factory setting is MOVIE.

Changing the settings

1. **Press [MEMORY] and [TUNE MODE] at the same time to enter the setting mode.**
2. **Press [MEMORY] to select the item you want to change.**
3. **Change the settings.**

Ⓐ DR COMP

Press [TUNING ∨ or ∧] to select "OFF", "STANDARD" or "MAX".

Ⓑ D – INPUT

① Press [TUNE MODE] to select "DVD" or "TV".
② Press [TUNING ∨ or ∧] to select "OPT" or "COAX".

Ⓒ LIGHT

Press [TUNING ∨ or ∧] to select "ON" or "OFF".

Ⓓ A/D ATT

Press [TUNING ∨ or ∧] to select "OFF" or "ON".

Ⓔ PLⅡ MODE

Press [TUNING ∨ or ∧] to select "MOVIE" or "PL".

4. **Press [MEMORY] and [TUNE MODE] at the same time to exit the setting mode.**

Troubleshooting guide

Before requesting service, make the below checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem:
In the U.S.A., contact the Panasonic Customer Call Center at 1-800-211-7262, or e-mail consumerproducts@panasonic.com, or web site (http://www.panasonic.com).
In Canada, contact Panasonic Canada Inc. Customer Care Centre at 905-624-5505, web site (www.panasonic.ca), or an authorized Servicentre closest to you.

Common problems		Pages
No power.	● Ensure the power cord is connected.	7
No sound.	● Turn the volume up.	10
	● Check connections to speakers and other equipment.	5–7
	● Select the correct source.	10
	● Change the D-INPUT setting to suit the type of connection you have made.	21
	● Check that the digital signals can be decoded by this unit.	11
	● Turn PCM FIX or DTS FIX off.	10
Sound stops. "F 61" or "F 61 SD" appears on the display for about a second, and the unit turns off.	● Determine and correct the cause, then switch the unit on. Causes include: –Shorting (bare wires touching) of positive and negative speaker wires. –Using speakers with an impedance lower than that rated for this unit. –Straining of the speakers through excessive volume or power. –Using the unit in a hot environment without proper ventilation.	 5 5 – –
	● Consult your dealer if the problem occurs again after switching the unit on.	–
"F 70" appears on the display.	● Turn the unit off, disconnect the AC power supply cord, and consult your dealer.	–

Sound modes		Pages
Sound is not heard from the center, surround, or subwoofer speakers.	● Ensure the SIZE settings for your speakers are correct.	8
	● Check the sound mode.	10
Sound modes cannot be selected.	● Turn DVD 6CH input off.	12
	● The DSP switches to STEREO if input is PCM with sampling frequencies of 96 or 88.2 kHz.	11

Radio		Pages
The radio cannot be tuned in or there is a lot of noise and interference.	● Connect the appropriate antenna. (You may need an outdoor antenna or one with more elements.)	7
	● Adjust the position of the FM or AM antenna.	7
	● Reduce the treble.	12
	● Turn off nearby televisions, video decks, DVD players, and satellite receivers.	–
	● Separate the antenna from other cables, leads, and appliances.	–

The RESET function

While the unit is on

While pressing and holding [TUNING ∧], press [POWER ⏻/I].

"RESET" appears on the display.
The operation settings for the unit will be initialized to the settings made at the time of shipment.
However, any preset radio stations will not be erased.

Maintenance

If the surfaces are dirty

Clean this unit with the included cleaning cloth.

● Never use alcohol, paint thinner or benzine to clean this unit.

Specifications (IHF'78)

■ AMPLIFIER SECTION

Rated minimum sine wave RMS power output	
20 Hz–20 kHz both channels driven	
0.9 % total harmonic distortion	100 W per channel (6 Ω)
1 kHz continuous power output both channels driven	
0.3 % total harmonic distortion	100 W per channel (6 Ω)
Total harmonic distortion	
rated power at 20 Hz–20 kHz	0.9 % (6 Ω)
half power at 1 kHz	0.08 % (6 Ω)
Power output at 1kHz each channel driven	
0.9 % total harmonic distortion	
Front	2 x 100 W (6 Ω)
Center	100 W (6 Ω)
Surround	2 x 100 W (6 Ω)
Load impedance	
Front	6–8 Ω
Center	6–8 Ω
Surround	6–8 Ω
Frequency response	
DVD/DVD 6CH, VCR, TV	10 Hz–44 kHz, ±3 dB
Input sensitivity	
DVD/DVD 6CH, VCR, TV	27 mV (200 mV, IHF '66)
S/N (IHF A)	
DVD, TV (DIGITAL INPUT)	90 dB (98 dB, IHF '66)
Input impedance	
DVD/DVD 6CH, VCR, TV	22 kΩ
Tone controls	
BASS	50 Hz, +10 to –10 dB
TREBLE	20 kHz, +10 to –10 dB
Subwoofer frequency response (–6 dB)	7–200 Hz

Digital input	
Optical	2
Coaxial	1

■ FM TUNER SECTION

Frequency range	87.9–107.9 MHz
Sensitivity	11.2 dBf (2 µV, IHF '58)
50 dB quieting sensitivity	
MONO	18.3 dBf (4.5 µV, IHF '58)
STEREO	38.3 dBf (45 µV, IHF '58)
Total harmonic distortion	
MONO	0.2 %
STEREO	0.3 %
S/N	
MONO	73 dB
STEREO	67 dB
Frequency response	20 Hz–15 kHz, +1 dB, –2 dB
Alternate channel selectivity	65 dB
Capture ratio	1.5 dB
Image rejection at 98 MHz	40 dB
Spurious response rejection at 98 MHz	75 dB
AM suppression	50 dB
Stereo separation	
1 kHz	40 dB
10 kHz	30 dB
Antenna terminal	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	530–1710 kHz
Sensitivity	20 µV, 330 µV/m
Selectivity	55 dB
IF rejection at 1000 kHz	50 dB

■ VIDEO SECTION

Output voltage at 1 V input (unbalanced)	1±0.1 Vp-p
Maximum input voltage	1.5 Vp-p
Input/output impedance	75 Ω

■ GENERAL

Power supply	
Power consumption	
Dimensions (W x H x D)	430 x 52 x 334 mm (16-15/16" x 2-1/16" x 13-5/32")
Mass	3.5 kg (7.7 lb.)

Power consumption in standby mode:	**1 W**

Notes:

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

Product Service

1. **Damage requiring service —** The unit should be serviced by qualified service personnel if:
   (a) The AC power supply cord or the plug has been damaged; or
   (b) Objects or liquids have gotten into the unit; or
   (c) The unit has been exposed to rain; or
   (d) The unit does not operate normally or exhibits a marked change in performance; or
   (e) The unit has been dropped or the cabinet damaged.
2. **Servicing —** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
3. **Replacement parts —** When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
4. **Safety check —** After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

Product information

For product information or assistance with product operation:
In the U.S.A., contact the Panasonic Customer Call Center at 1-800-211-7262, or e-mail consumerproducts@panasonic.com, or web site (http://www.panasonic.com).
In Canada, contact Panasonic Canada Inc. Customer Care Centre at 905-624-5505, web site (www.panasonic.ca), or an authorized Servicentre closest to you.